AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 11 (Canceled).

12. (New) A semiconductor power converting apparatus comprising:

at least one series arrangement of insulated-gate bipolar transistors (IGBTs), each IGBT being responsive to a gate voltage under the control of a corresponding driver,

wherein said driver contains a power supply line having a higher potential than a gate voltage of an IGBT coupled thereto when said IGBT is in a steady ON state; and

wherein said driver causes an increase of the gate voltage of said IGBT, in accordance with a current of said power supply line, when a potential difference between said power supply line and an emitter of said IGBT is constant and a collector voltage thereof exceeds a predetermined value under an ON state.

13. (New) A semiconductor power converting apparatus according to claim 12,

wherein said driver includes a gate circuit and each IGBT in said series arrangement has a separate gate circuit coupled thereto, each gate circuit responding to a collector voltage exceeding a predetermined value of a corresponding IGBT to cause an increase in the gate voltage of that IGBT and, correspondingly, cause an increase in the saturation current level thereof.

14. (New) A semiconductor power converting apparatus according to claim 13,

wherein said at least one series arrangement of IGBTs includes a plurality of series arrangements of IGBTs constituted as plural sets of two series-connected arms, each arm including a respective said series arrangement of IGBTS, each set of two series-connected arms being coupled across a power source and a common connection of the two series-connected arms of each set being coupled to a corresponding load element of the power converting apparatus.

15. (New) A semiconductor power converting apparatus comprising:

at least one series arrangement of insulated-gate bipolar transistors (IGBTs) connected to a power supply line;

a circuit for outputting a first gate voltage value for switching each of said IGBTs;

a circuit for outputting a second gate voltage value which becomes higher when a collector voltage of each of said IGBTs is increased; and

a circuit for comparing said first and second gate voltage values with each other, and for controlling the gate voltage of each of said IGBTs to be the higher gate voltage value,

wherein, when the collector voltage of each of said IGBTs is higher than a collector voltage under steady OFF state of each of said IGBTs, the gate voltage of each of said IGBTs is increased to be higher than a gate voltage of each of the IGBTs under steady ON state.

16. (New) A semiconductor power converting apparatus according to claim 15, wherein:

said circuit for comparing said first and second gate voltage values with each other and for controlling the gate voltage of each of the IGBTs to be said higher gate voltage value includes an npn transistor and a pnp transistor which are connected in a complementary manner;

a collector of said pnp transistor is connected to an output of the circuit for outputting the second gate voltage value for switching said MOS control semiconductor; and

a base of said pnp transistor and a base of said npn transistor are connected to an output of said circuit for outputting the first gate voltage value which becomes higher when the collector voltage of each of said IGBTs is increased.

17. (New) A semiconductor power converting apparatus according to claim 16, wherein a diode is connected in inverse-parallel with said pnp transistor.

18. (New) A semiconductor power converting apparatus according to claim 15, wherein a diode is connected in inverse-parallel with said pnp transistor.

19. (New) A semiconductor power converting apparatus comprising at least one series arrangement of insulated-gate bipolar transistors (IGBTs) connected to a power supply line, each IGBT being responsive to a gate voltage under the control of a corresponding driver coupled thereto, each driver including:

a circuit for outputting a first gate voltage value for switching a corresponding IGBT;

a circuit for outputting a second gate voltage value which becomes higher when a collector voltage of said corresponding IGBT is increased; and

a circuit for comparing said first and second gate voltage values with each other, and for controlling the gate voltage of said corresponding IGBT to be the higher gate voltage value,

wherein, when the collector voltage of said corresponding IGBT is higher than a collector voltage under steady OFF state of that IGBT, the gate voltage of said IGBT is increased to be higher than a gate voltage thereof under steady ON state.

20. (New) A semiconductor power converting apparatus according to claim 19, wherein said driver is such that:

said circuit for comparing said first and second gate voltage values with each other and for controlling the gate voltage of a corresponding IGBT to be said higher gate voltage value includes an npn transistor and a pnp transistor which are connected in a complementary manner;

a collector of said pnp transistor is connected to an output of the circuit for outputting the second gate voltage value for switching said IGBT; and

a base of said pnp transistor and a base of said npn transistor are connected to an output of said circuit for outputting the first gate voltage value which becomes higher when the collector voltage of said IGBT is increased.

21. (New) A semiconductor power converting apparatus according to claim 20, wherein a diode is connected in inverse-parallel with said pnp transistor.

22. (New) A semiconductor power converting apparatus according to claim 19, wherein a diode is connected in inverse-parallel with said pnp transistor.

23. (New) A semiconductor power converting apparatus comprising at least one series arrangement of insulated-gate bipolar transistors (IGBTs) for connection to a power supply line, and control circuitry for controlling a gate voltage of each of said IGBTs, wherein said control circuitry includes:

means for outputting a first gate voltage value for switching each of said IGBTs;

means for outputting a second gate voltage value which becomes higher when a collector voltage of each of said IGBTs is increased; and

means for controlling a gate voltage of each of said IGBTs to be a voltage obtained by adding said first gate voltage value to said second gate voltage value.

24. (New) A semiconductor power converting apparatus according to claim 23, wherein a separate said control circuitry is provided for each of said IGBTs in the series arrangement.

25. (New) A semiconductor power converting apparatus according to claim 24, wherein said at least one series arrangement of IGBTs include a plurality of series arrangements of IGBTs constituted as plural sets of two series-connected arms, each arm including a respective said series arrangement of IGBTS, each set of two series-connected arms being coupled across a power source and a common connection of the two series-connected arms of each set being coupled to a corresponding load element of the power converting apparatus.

26. (New) A semiconductor power converting apparatus comprising at least one insulated-gate bipolar transistor (IGBT), and a gate driver for controlling a gate voltage of said IGBT, said gate driver being comprised of:

a power supply line having a higher potential than a gate potential when said IGBT is in a steady ON state; and

means for supplying a current from the power source line to the gate of said IGBT so as to increase the gate voltage of said IGBT when a potential difference between said power supply line and an emitter of said IGBT is constant, and a collector voltage of said IGBT exceeds a predetermined value under an ON state of said IGBT.